Innovation in services: Cases of Brazilian manufacturing industries

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The service sector is currently being transformed in the face of economic, technological and social change and is expanding its markets and increasing the complexity of its activities. Innovation process in services is new in academic literature and is still largely debated. The goal of this study is to analyze the service innovation process in two large manufacturing industries, associating the service innovation models found in the literature to the organizational practices adopted by the case study under consideration, so that a set of inferences can be made in regards to a model for understanding the process of service innovation within the realm of industrial organizations. For this purpose, a literature review pertaining to the subject was done and in-depth interviews were conducted with managers from these large manufacturing industries. The findings indicated that innovations in services present challenges that need to be clarified as innovation process, related to properly understanding the unique nature of services by structures originally designed for manufacturing, as well as the assumption of a new paradigm related to creating and developing relationships with clients on a long-term perspective.

Key words: Innovation, services, Brazilian industry.

INTRODUCTION

Since the launch of the book, The Theory of Economic Development, by Joseph Schumpeter in 1934, the theme of innovation has been exhaustively analyzed, debated and theorized about without, however, having come close to a consensus among different authors with respect to the key issues related to the dimensions, typologies, models and processes of innovation.

Until the late 1980s, attention was focused mainly on technological innovation in products and processes, with the development of indicators capable of measuring the pace and direction of innovations, promoted by industries and countries, such as the patenting of technological inventions or the level of investment in research and development activities.

In the early 1990s, other aspects of innovation became the center of interest. The second edition of the Oslo Manual (OECD, 1997) added the dimension of managerial or organizational innovation, albeit rather tentatively, since both the characterization and forms of mediation of these innovations were not clearly established.

In the same edition of the Manual, marketing activities, such as market research, design and packaging, are also cited as sources of innovation, even though they are apparently described as cosmetic innovations, or at best, incremental, whose degree of relevance in terms of business results is considered inferior to technological innovations in products and processes, emphasizing that marketing activity is only an innovation when it is necessary for implementing a technologically new or improved product. In other words, the Oslo Manual (OECD, 1997) suggests that marketing activities supports technological innovations, but are not themselves the source of innovations.

Analysis of the innovation process in the service sector
began in the late 1980s, the fruit of theoretical and methodological opposition which is slowly being overcome. The service sector is currently being transformed in the face of economic, technological and social change and is expanding its markets and increasing the complexity of its activities. However, one aspect that seems to have received little attention from academics and researchers, despite its growing economic importance, is innovation in services.

Not only the sectors predominantly identified with providing services, such as financial institutions, education, telecommunications and infrastructure, but the industrial sector has also sought by means of innovation in services to create differentials capable of generating a sustainable competitive edge in their markets, in light of the ability of services to produce value for customers.

One of the ways in which many industrial organizations have been seeking to respond to the increasing complexity of demand has been by adding post-sale services to their products, in an attempt to expand the services component in their final products, with the primary purpose of complementing the offer of their tangible products with an intangible component that is present in the dimension of services (Castellacci et al., 2005).

Many technological innovations in products and processes, in spite of the amount of investment in research and development are not clearly noticed by customers, while service innovations, despite requiring less funding to be implemented in some cases, are quickly perceived and valued in terms of the aforementioned features of services, described in greater detail in subsequent sections.

Within this context, the objective of this research is to pinpoint service innovation processes and its implications for securing their competitive edge, by studying two large manufacturing industries in the Serra Gaucha, Brazil.

Concept of innovation

Innovation can be defined as a process that aims to turn opportunities into new ideas and put them into practice. It can also be characterized as the act or effect of making something new; to renew; or to introduce something new (TIDD et al., 2005).

For Rogers (1983), "innovation is an idea, practice or object that is perceived as new by an individual or another body adopting it." According to this author, in order for an innovation to be considered as such, it does not matter how new it is, in terms of how much time has elapsed since it was first discovered or used, but it is rather perceived as something new by those adopting it, whether individuals, organizations and economies.

The definition provided by Schumpeter (1961) is at the same time, more specific and comprehensive, characterizing an innovation in its broadest sense, as being produced in five different ways:

1. Introducing a new commodity in the market which consumers are not familiar with.
2. Introducing a new production method, based on a scientific discovery or a new way of treating a particular product commercially. The creation of a new market in a certain country, regardless of whether this market exists in another country or not.
3. Securing a new source of supply of raw materials or semi-manufactured products, whether this source is new or already exists.
4. The deployment of a new structure in a market, such as the establishment of a monopoly position, for example, Haustein (1980) defines innovation as the ability to introduce new equipment and machinery, as well as new organizational solutions in production processes or in the market, while the Frascati Manual (OECD, 1981) characterizes innovation as the transformation of an idea into a new or improved product that can be sold, or into an operational, industrial or business process, or into a new method of providing a social service.

Pavon and Goodman (1981) defined innovation as the totality of activities registered in a certain time and place, leading to the successful introduction in the market, for the first time, of an idea in the sense of new or improved products, processes, services or management, and organizational techniques. This is one of the first definitions since the beginning of the study in which services are treated as one form of innovation.

Piatier (1984) pinpointed innovation as an idea that is transformed into something that is saleable. As for Dosi (1988), [...] Innovation is related primarily to discovery, experimentation, development, imitation and adoption of new products, new production process and new organizational arrangements.

Ruiz and Mandado (1989) argued that technological innovation includes all the scientific, commercial and financial steps that are necessary for the successful development and commercialization of new products or products with better features, the commercial utilization of new or better processes or equipment, or the introduction of new services in the market. Here, once again, the category of services appears more as an activity that supports or sustains technological product and process innovations, but not as an innovation by itself. The Oslo Manual (OECD, 1997) outlines three different types of innovation:

1. Product innovation: A technologically new product is one whose fundamental characteristics differ significantly from all products previously produced by the company.
2. Process innovation: refers to technologically new or substantially improved forms of operation, obtained by
It can be deducted that the Oslo Manual, created specifically to support innovation activities in OECD member countries and to provide indicators and methods to gauge innovative initiatives, does not mention the category of services as one of the types of innovation.

According to Damanpour (1991), innovation can be a new product or service, a new structure or administrative system, a new technological production process, a new plan or a program related to the members of the organization. Thus, innovation is defined as the adoption of an apparatus that is purchased or produced internally and which can be a system, a program, a process, a product or service that is new to any company which adopts it. This definition includes different types of innovation for all parts of the organization and all aspects of its operation. For Pennings (1998), innovation can be defined as the adoption of an idea which is considered new for the individual or another entity that adopts it. According to the author, new products or services, new technologies to produce or deliver products or services, new procedures, new systems and social arrangements are examples of innovation.

Innovation can be introduced in different degrees or levels, from the simplest level to the most complex, and can occur in two ways: Innovation in the form of changes in products and services, Innovation in how the product or service is produced or offered (Drucker, 2004).

The São Paulo Innovation Forum of the School of Business Administration, of the Getulio Vargas Foundation, identified four different dimensions of innovation in its classification of the different types of innovation (Leite, 2005):

1. Product and service innovation: developing and marketing new products or services, based on new technologies and tied to customer satisfaction.
2. Process innovation: developing new means of production or new forms of relationships for providing services.
3. Business innovation: developing new business that provides a sustainable competitive advantage.
4. Innovation management: developing new political and leadership structures.

The definition established by the Forum already includes the category of services as one of the dimensions of innovation, even though it considers services to be an extension of product innovation, or as a type of product. What we would like to demonstrate below is that services manifest specific characteristics that could warrant awarding them their own independent status, as a fifth dimension of innovation.

**Concept of services**

Regarding the characterization of services, Lovelock and Wright (2002) emphasized that a service is an act or something performed that is offered by one party to another and that, even if the process can be related to a physical product, the performance is intangible and does not result in ownership of the factors of production. The same authors claim that services are economic activities that create value and provide benefits to customers.

According to Grönroos (1990), service is an activity or series of activities that is more or less intangible that normally, but not necessarily, occurs in interactions between customers and service employees, or service provider systems, which are offered as solutions to the problems the customer has.

Quinn et al. (1987), consider that the service sector includes all economic activities whose product is not a physical or manufactured commodity; usually it is consumed when it is produced and provides added value in forms (such as convenience, amusement, opportunity, comfort or health) that represent essentially intangible interests on the part of the initial buyer.

A precise definition of goods and services, according to Sasscer (1978), should distinguish them on the basis of their attributes. A commodity is a physical or tangible product that can be created and transferred; it continues to exist over time and can therefore be made and used later. A service is intangible and does not endure, it is an...
event or process that is created and used simultaneously or nearly simultaneously. While customers may not be able to retain the actual service after it has been produced, the effect of the service can be maintained. In the view of Fitzsimmons and Fitzsimmons (2005), service is a non-lasting, intangible experience, developed for customers who play the role of co-producer. According to these authors, it is also difficult to determine the difference between a product and service, since the purchase of a product is accompanied by some type of support service (for example, installation), and the purchase of a service often includes goods (for example, food in a restaurant). Each purchase includes a combination of goods and services.

For Albrecht (1992), the administration of services has an all-encompassing organizational focus that makes the overall quality of service, as perceived by the client, the main driving force behind the company. He also stresses that service excellence means a quality level of service, which when compared to that of competitors is significant enough from the customer standpoint that it allows for charging higher prices for the service offered, securing a greater share of the market than what would be considered natural, and/or obtaining a bigger profit margin than that of its competitors.

The administration of services takes on a new urgency with respect to how the customer is treated. In a service provider outfit, satisfied customers are looked upon as assets. The purchases that customers will make in the future have a present value that generates part of the intangible capital of the enterprise. This view of Fitzsimmons and Fitzsimmons (2005) demonstrates that the customer can be thought of as an asset that has value, in other words, an asset whose value increases over time, and this really is the case when customer satisfaction and loyalty are steadily increasing.

For Levitt (1973), there are no service provider industries. There are only industries in which the service component is more important or less important than in others. In his view, fundamentally, we all provide services. Mainly for this reason, we believe that the services component, regardless of the nature of the organization is of fundamental importance to economies, and that more effort needs to be invested in understanding the subject of innovation, through developing models and typologies which could help managers to establish innovative initiatives in managing and providing services.

The service relationship involves direct interactions that take place throughout the productive process where customer participation is an essential element. It relates also to the social aspects involved in this interaction, as well as the mechanisms that regulate and enable them being achieved (Gadrey, 1994). The inherent nature of the service relationship in producing services makes the social component an indispensable aspect, which is reflected in the definition of the service being provided.

According to this, there are several definitions proposed by different authors who have dedicated themselves to the study of service management. Although, these definitions sometimes contain significant differences, there are some distinctive characteristics of services that are common to most that have been mentioned here, such as, for example, intangibility, simultaneity between production and consumption, its temporary nature, customer participation in the production process and the inability to retain the service after it has been partaken of, although the customer can continue benefiting from the effects of the service after having utilized it.

Service innovation

According to Gallouj (1994), service innovation has, as its starting point, the incorporation of some technological apparatus that characterizes the innovation. However, for Barras (1986, 1990), service innovation follows a different cycle than what would be expected by incorporating technological innovations, in other words, the opposite of what one might expect from a process of creative destruction (Schumpeter, 1934).

According to Hauknes (1998), innovation involves generic characteristics, with a process of convergence throughout the continuum between manufacturing and services. Gallouj (1994) classifies service innovation on the basis of three fundamental approaches:

1. Technical approach: service innovation is about incorporating new equipment and communication and information systems. This approach has, as its main focus, the notion that service innovations are the result of processes that disseminate industry innovations (Gallouj, 1997).

2. Service-based approach: its pre-supposition is based on Schumpeterian concepts and specifically analyzes the service sector, taking into account its nature and organization. This approach emphasizes the concept of ad hoc innovation and deals with innovation that unfolds throughout the relationship between service provider and user, which can only be reproduced in part (Gadrey et al., 1995).

3. Integrative approach: underlines the importance of incorporating the specific characteristics of service innovation and, for this reason, a specific theory for services is not necessary (Hauknes, 1998). Services and industry can be analyzed within the same analytical framework, the central differentiating factor being the intensity of the service relationship.

Given these different approaches, Gallouj (2002) recommended the integrative approach, because it deals with the specific characteristics of services and the intensity
of the service relationship. In this scenario, each service can be defined as the result of combinations of the particular expertise and skills of producers and consumers/customers, together with the technical characteristics necessary for the provision and consumption of services, and within this context, service providers/ producers can offer customers/users personalized innovations (Gadrey et al., 1995).

When it comes to innovation in services, its importance goes along with this sector’s contribution to economic growth, and its growing relevance has been acknowledged and is responsible for many studies related to the subject of innovation (Hauknes, 1998; Howells and Tether, 2004; Miles, 2005).

The diversity that is found in the service sector is acknowledged and classified into four groups by Howells and Tether (2004): services related to products (such as transport and logistics), information-based services (such as call centers), services that deal primarily with knowledge, and services that involve people (health care). While diversity must be taken into account, in general the characteristics of the service sector in relation to innovation are very similar.

The service innovation process tends to be continuous, consisting of a series of incremental changes in both the product and the process. This fact may eventually make pinpointing innovations in services difficult in relation to isolated events, such as implementing a significant change in processes, products, and other methods.

In medium and low technology industries, innovation often receives less attention than innovation in high technology industries. However, innovation in medium and low technology can have a considerable impact on economic growth, because of the importance of these sectors to the economy.

Low and medium technologies are often characterized by incremental innovation and by adoption. Therefore, actions taken in regards to innovation are generally based on production efficiency, product differentiation and marketing (Von Tunzelmann and Acha, 2005). In this sense, an important aspect of innovation in these industries is the fact that it is more complex than simply adopting new technologies. Often, innovation activities in reference to low and medium technology involve the incorporation of products and knowledge of high technology. Thus, the use and application of advanced technologies in low and medium technologies creates new demands in as far as training the workforce and may affect the organizational structure and interactions with other organizations and public research institutions.

The service sector currently serves as new strategy for countries to heighten their competitiveness in the global market. In the last decade, in particular, this sector has gained prominence in the Brazilian economy not only in terms of sales revenue, but also in creating employment. According to Andreassi (2002), this is not just a trend in Brazil. In the U.S., for example, the service sector represents 71% of GDP and 75% of employment.

Andreassi (2002) pointed out that even if the importance of the service sector in acquiring innovation is still characterized by the application of information technology, producing results are still below what was expected, as stated by Hackett (1990).

In industry, the introduction of an innovation process allows the organization to gain a significant competitive edge primarily by offering a differentiated product and also at a lower cost. It is worth noting that in the case of services, employee skills and training are critical factors to ensure that customers are well attended to. This fact becomes even more important when you consider that a poorly treated customer rarely returns to a store or restaurant, even if the price is good.

This fact occurs, according to Quinn and Guile (1990), because there are few economies of scale in services and, thus, information technology is not a factor that is so crucial for business.

Despite the boundaries between industry and services becoming increasingly blurred, it should be noted that the way to innovate in industry is different from innovation in services. Unlike industry, in services, process innovation comes before product innovation. In that the first stage consists of process innovation, using new technologies from other sectors to increase efficiency in the production/delivery of services.

The entire set of distinctive characteristics between a product and a service creates both challenges and opportunities for managers in any industry. As in the case of tangible products, services also need to be imbued with characteristics which distinguish them from competitors. Lovelock and Wright (2002) emphasized that with increasing competitiveness and customer expectation levels, innovation in services is playing an ever more important role in the success of organizations.

According to Fitzsimmons and Fitzsimmons (2005), services are ideas and concepts, while products are objects. Thus, unlike products, service innovation is not something that can be patented or protected against being used by competitors. For this same reason, measuring innovation in services is a radically different process, since you cannot measure the level of investment in service innovation through patenting, as is the case with technological innovations in products and processes.

Another difficulty in measuring, both the amount of service innovation and the dimension of the service sector in economies, is the aforementioned increase in the dimension of services in manufacturing organizations, described by Castellacci et al. (2005). According to the author, this means that manufacturing companies are pursuing marketing strategies that seek to complement their tangible products with an intangible component using the key features that are typical of services, such
as intangibility, interactivity and information intensity.

The problem of measuring services is particularly challenging when the task involves learning and understanding the standards of innovation. Besides the difficulty in clearly defining what services are, there is the challenge of being able to detect newness and changes in quality of services. The already tenuous boundaries between technological and organizational innovations, or between product and process innovations, become even more blurred in the case of services (Castellacci et al., 2005).

The author stated that typical innovative service companies tend to invest less in Research and Development (R and D) than manufacturing companies, but this fact on its own, is not enough to measure the dynamism of these organizations, since investments in training and marketing are not usually included in conventional statistics. Moreover, existing statistics are normally based on categories previously developed for tangible assets, which are not always the most appropriate for describing the specific characteristics of services.

Fitzsimmons and Fitzsimmons (2000) developed a classification of service innovation levels based on the traditional distinction established for tangible assets, which is divided into radical innovations and incremental innovations. In the case of services, radical innovations are often driven by technologies based on information technology, while incremental innovations are more related to line extensions and changes of style, often driven by new consumer demands, which leads us to the traditional theoretical clash between market-pull and technology-push innovations (GODIN, 2006).

In other cases, innovations in services respond to internal needs of the organization, especially pertaining to the standardization of processes and streamlining costs. In this respect, a characteristic that has marked the evolution of services in the last two decades or so has been a trend toward standardization, usually associated with manufactured products and quite difficult to implement in producing services. In this category, we can cite as examples optical readers for inventory control or automatic call distribution systems. Despite these innovations being highly significant in terms of the internal processes of organizations, this study chose to focus attention on service innovations that add value for customers and are perceived by the latter as benefits or responses to their needs and desires, creating a competitive edge over the options of competitors, regardless of how much these innovations contribute, at the same time, to optimize internal processes, as in the case of home banking, to name but a landmark case.

MATERIALS AND METHODS

For the purpose of this study, a literature review was performed as well as qualitative research based on two industrial organizations with headquarters in Caxias do Sul, in the Serra Gaucha region, south of Brazil. The research was structured around in-depth interviews with managers linked to the area of interest of the research, as well as the study of documents, both of printed material provided by the companies and information contained in the sites of the same. The theme and research problem were based on a literature review. According to Alves-Mazzotti and Gewandsznajder (1999), "two aspects are normally associated with a literature review in regards to a research problem: (a) an analysis of previous studies on the same subject and/or related topics and (b) a discussion on the theoretical framework."

The interviews, which were semi-structured in nature, were conducted in order to obtain initial information about the background of the companies and the views of managers concerning the services that were added to their main products, as well as the role played by services in the perception of value on the part of clients and the success of these ventures. Another goal was to understand the outlook of managers regarding service innovation process and its implications for securing a competitive edge in their respective businesses. Qualitative research is the most appropriate methodology for broadening the understanding in relation to the general nature of a problem (Wolcott, 1994). A documentary analysis was conducted with the goal of enhancing the information gathered during interviews, looking for evidence that would support the hypotheses drawn from the discussions with the interviewees. It was decided to use documents from different sources prepared by different authors as a means of ensuring a broader point of view, not limiting the study to the official perspective of the organizations.

The choice of two industrial organizations, whose characteristics are primarily manufacturing, was also a methodological decision, in a deliberate attempt to identify the role of services and above all, the innovation in services, in segments not usually known for their dynamism as service providers. Lastly, the services pinpointed as objects of research are those directed towards customers or consumers, and not those focusing on internal activities aimed at standardizing processes, a topic that lies beyond the purpose of this study. The organizations selected were:

2. Case B: the installment lottery pool division of a multinational industry in the metal-mechanic sector.

As previously explained, the cases were selected because they met the research requirements described above and for their representatively and relevance in the business realm under consideration.

Case A

Case A is represented by the largest industrial and medical gas company in South America, present in nine countries on the continent, responsible for providing solutions that display innovation, technology and results for their clients.

Its line of products and services is the most comprehensive in the market: it includes atmospheric gases (oxygen, nitrogen and argon), process gases (carbon dioxide, acetylene, hydrogen, mixtures for welding), as well as medical and specialty gases. The organization has a strong presence in sectors that are pillars of a national economy and responsible for meeting large domestic and export demand: the metal-mechanic sector, natural gas, food, beverages, the environment and low-consumption customer segments, besides being a supplier to all the major national petrochemical hubs and one of the main partners of the Brazilian steel industry and medical-hospital sector, corresponding to a gross
annual revenue of 8.9 billion Brazilian Reais in 2006.

The company was founded in 1912, in Rio de Janeiro, for the purpose of supplying industrial gases to national industry, wagering primarily on the potential of oxy-acetylene welding in the country's industrial development. During the entire 20th century, it concentrated its efforts in supplying gas for cutting and welding and hospital oxygen, besides manufacturing welding and cutting equipment, fuel tanks, and cryogenic tanks and columns.

From the beginning of the twenty-first century, the industry initiated the development process for a service aimed at the growing home care segment. Home Care Service originated in 1947 in the United States as an alternative to the high costs of hospital admissions. It came about in response to pressure from the government and health insurance companies, and through organizational initiatives that originated from private companies, whether for-profit or non-profit. Currently, the segment is aligning itself with certain rules set by the market itself (service contractors and providers), with results in quality health care, as well as financial, when compared to hospital care. In Brazil, the sector has shown great capacity and potential for growth and activity on new fronts which can generate benefits for everyone: patients as well as service providers and contractors. The supply of services is increasing exponentially, both in the public and private sectors.

In this segment, the organization combines its expertise in supplying medical gases and equipment with personalized service for every customer who needs assistance or domiciliary care, by creating a structure that is specialized in providing home support services, such as instruction on using and handling equipment and emergency care.

We will call the services described above as product-related services, as per the specialized literature on the subject. According to Gebauer et al. (2008), product-related services represent a specific category of services offered by manufacturing companies. This definition is consistent with the descriptions found in many authors, such as Oliva and Kallenberg (2003), Kotler (1994) and Mathieu (2001a, b) with respect to basic installation services, repair and maintenance services, and general product support services.

The innovation brought by Case A in this field can be characterized according to Rogers' classic definition (1962), already described in this study, according to which an innovation may be understood as such provided it is perceived as a novelty on the part of the segment that is adopting it, which is in this case, the organization itself. Both home care service, as well as much of the equipment that make possible to offer this service, already existed. The innovation simply consisted in adding to the organization's portfolio a structure specifically designed to support this activity.

Since innovation in service provider companies generally differs from what takes place in manufacturing organizations (Johne and Storey, 1998), Case A had to deal with the challenge of maintaining a balance between two different innovation processes as they developed home care services. While product innovation is primarily focused on the features of the products, service innovation also involves changes in delivery systems and interfaces with customers (Jong et al., 2005).

This challenge was particularly significant due to a complication factor: adding to the culture of the organization a business to customer focus as a supplement to the traditional business to business focus, developed in the organization since its inception. Admittedly, normal individual customers and organizational clients have different organizational needs, selection criteria and value perceptions, which also influences how much each customer group is willing to pay (Ghemawat and Rivkin, 2000).

In this sense, the innovation promoted by Case A with home care support service, confirms some conclusions found in the literature regarding the main differences between innovation processes for products and services. Gebauer et al. (2008) pointed out that, an explicit strategy for human resource development has a greater influence on the success of new services than in the case of new products, which makes it of paramount importance to concentrate investments in developing front line staff and service provider support areas.

This concentration of investment in developing human resources is also a reflection of the increase in the business to customer focus described above, since the interviewees reported that some specific characteristics of individual customers, such as being more subjective in the process of selecting service providers, needing more orientation regarding the use and maintenance of equipment and having an overall lower level of technical expertise, required a series of initiatives by the organization to capacitate and train front line staff and to deal with these specificities.

According to the information obtained from the managers of the company, a basic difference between innovation service processes for organizational customers and individual customers, lies in the fact that while innovations in services for organizational clients are designed concurrently with product development, and also launched simultaneously on the market, innovations in services for individual customers happen in separate stages. First, the product is developed and marketed. Subsequently, service innovation related to the product is effected, taking into account the process of using the product.

As the needs of product-related services generally vary more in the case of individual customers, the services provided need to be more personalized, which makes the service innovation process more challenging, less systematic and, consequently, less subject to standardization; a fact that also often makes it difficult to take advantage of the economies of scale, normally, one of the objectives sought in product innovation processes and processes in manufacturing organizations.

Case B

Case B refers to an industry established in 1949, in Caxias do Sul. The organization was set up to produce blacksmithing materials and to repair engines and machinery, and a few years later it became a small air brakes factory. Gradually, the company went adding to its product line the manufacture of axles, third axles and semi-trailers.

In 1970, the organization became a corporation and the following year, a public company. The organization remains in control of majority shareholders. In the following years, through an aggressive joint ventures strategy which was aimed to secure partnerships with more technologically advanced companies with a strong presence in international markets, a mixed holding company arose, the leader of a group of eight operating companies, which together accounted for a total gross revenue of R$ 2.89 billion in 2006.

The study of Case B corresponds to one of these eight companies comprising the Group, and was selected to take part in this study by virtue of the fact that it was formed as a result of an innovation in services established by its main parent company, an overall manufacturing organization that fulfills the study requisites of this research.

The company was founded in 1987 and its initial purpose was to administer groups of installment lottery pools as a new way of selling road equipment manufactured by the organization. It was originally a service provided exclusively to customers of the Group as a way to facilitate the purchase of products in its line. Since 1993, the organization began expanding its activities to different segments. First, it launched a pilot project for a vehicle lottery pool for employees of the Group's companies. With the success of this initiative, the project was expanded to include individuals and companies for purchasing cars, buses,
agricultural machinery, real estate and property, which resulted in steady growth in revenues and the number of customers.

More recently, the company introduced two more service innovations: the first innovation was administrating the installments for companies' wish to offer their customers an installment option for purchasing goods; and the second innovation was the franchise network, whose goal was to form an increasingly solid network for the purpose of marketing real estate lottery pools throughout Brazil. Both the management of the franchise network and administering the installments of purchases made by customers of the companies associated with Case B are entirely the responsibility of the organization.

The service innovation created by Case B took the form of a new company, essentially providing services. While Case A faces the challenge of balancing efforts in developing new products and services, Case B can concentrate its entire focus on the second process, thereby reducing the conflicts inherent in changing the culture of the mother manufacturing company, accustomed to a specific process of product creation, designing processes and customer relations.

Innovation in services as represented by Case B arose from a perceived need by the Group to create value for its customers, apart from the actual product, while it also served as a corporate strategy for expanding sales volume, through market penetration, by adding an alternative payment option that would be sufficiently attractive to the market, availing themselves of the economic and financial soundness of the organization.

The initial process of service innovation in the Group was along the lines of other industrial services organizations, whose customers are other organizations, which is radically different from innovation processes in organizations that serve the final customer, because in the latter the main focus of the process is to create value for a broad base of consumers, aiming at standardization of services and limited participation of customers in the design of services, while in industrial services organizations, for De Jong and Vermeulen (2003), they must deal with clients with different choice and decision processes, apart from extremely complex demands.

According to Yanamandram and White (2006), industrial service providers must customize their services according to the particular needs of clients (organizational). The development or improvement of industrial services should, to a greater degree than in the case of services for customers, focus on the development of interactions and relationships with customers, apart from requiring a greater involvement with suppliers and experts in development and implementation processes for services (Panes and Markeset, 2008).

The next innovation, as already mentioned, is expanding the service to also include individuals in the purchase of consumer goods, cars, real estate, making it necessary to adjust all the processes to fit a service profile radically different from that traditionally practiced by other companies in the group. Business to business, as opposed to business to customer relationships is different in nature as different authors affirm, such as Grönroos (1990), Gumesson (1997) and Parvatiyar and Sheth (1998). Given these differences, Case B promoted a series of organizational changes, ranging from restructuring the Human Resources department, with the adoption of different criteria for recruitment, selection, development and remuneration, to the hierarchical structure itself, with a fewer number of levels in relation to other enterprises of the group, facilitating the communication process and granting greater autonomy to employees who have direct contact with customers.

Case B was the first company of the Group to adopt Knowledge Management and Skills Management models, precisely because it considers them more suitable for providing support to the business model of the Group. Since the organization, in the service segment, works more closely with the final customer, including the active participation of the latter in the process of “production” and delivery of the service, the quality of interaction between service provider employees and customers is critical in the perception of service quality, as Grönroos (2000) underscores. Therefore, while knowledge management is the basis for generating ideas that will lead to innovations in services and developing and maintaining relationships, skills management recognizes and rewards initiatives geared to creating and transferring value to the customer and also serves to measure and eliminate or reduce skills gaps that could be perceived by customers as something that diminishes this value.

The latest innovation incorporated into Case B's service portfolio was a franchise system, designed to expand the customer base of the installment lottery pool business of the Group, which also significantly contributes to strengthening the brand as well as disseminating the innovations to other regions and markets. According to Rogers (1983), the dissemination of innovations is important because it determines both the direction and speed at which innovations are adopted and, since innovations in services are not subjected to patent protection, the only way an organization can ensure control over these innovations is through a fast and efficient dissemination process.

ANALYSIS AND DISCUSSION

The service innovations undertaken by the organizations that were studied, despite the different approaches and purposes, have certain aspects in common with regard to the innovation process, both when comparing the processes used in the two organizations and with the processes described in the literature. For example, Cumming (1998) and Ahmed (1998) stated that the innovation process includes the steps of generating ideas, developing ideas into a usable concept, and finally the successful application of the concepts developed. Edvardsson et al. (1995) and Edvardsson and Olsson (1996) pinpointed the stages of idea, project elaboration, design and implementation. In the opinion of these last authors, these four phases overlap each other and can rarely be clearly identified.

An important confirmation reached during the interviews with the managers from both organizations also coincides with the main observations made by researchers in the field of service innovation, which states that in the majority of cases studied, service innovations are less dependent upon technological innovations than are product innovations (Cooper and De Brentani, 1991; Storey and Easingwood, 1993).

In both cases, the innovations, although supported by information technology, did not step out from these technologies, but emerged as a result of pinpointing certain market opportunities (in Case A, home care support service, and in Case B, the needs of actual, potential customers).

Thus, the innovations were generated internally and not, as is the case for many consumer goods, externally, as an outgrowth of technological innovations.

In Case A, the physical product is still an important component of the innovation process, since it
represent a prerequisite for providing service. All home care support services are contingent upon the supply of products (medical gases, cylinders and biomedical equipment), which are determining factors for providing the services of the network project, installation and maintenance.

While these services are an integral part of the products, in other words, the benefits derived from the products cannot be obtained without the service package that accompanies them. The home care support service and the development of the structure that enables this to be provided are what in fact represent an innovation on the part of the organization.

The great challenge faced in Case A was the remodeling of a structure originally designed to attend to the business to business market so that it would attain appropriate levels of efficiency and profitability in the business to customer relationship. The specifics of this market made it necessary to develop structures for development, marketing, distribution, installation, maintenance and support which were completely innovative for the mainstream culture in the organization.

Production scales, sales volumes, targeting criteria and forms of relationships with customers, among other factors, present striking differences when you compare markets for industrial customers and everyday customers. The structures needed to appropriately and profitably service each of these different markets, require approaches that are often in conflict, compelling the organization to undertake efforts in separate directions and to study in detail the allocation of resources for each of the markets, as well as develop efficiency and satisfaction indicators tailored to each customer profile.

The organizational group pertaining to Case B, in founding the company, promoted service innovation in quite a different form than that normally found in industrial organizations that, in general, are directed towards installation services, repairs and maintenance of industrial equipment and that are, therefore, product-related services, in other words, services that ensure the ongoing functioning of the physical products supplied and maintenance of the benefits provided by them.

In the specific case of the creation of Case B, the innovation process adopted was not geared towards developing a package of services added specifically to physical products, but rather facilitating the process of acquiring products manufactured by the Group. In the majority of industrial organizations, it happen by means of establishing a business policy; by this group, it was by the form of a new business. While there are cases similar to this in the business world, any similar and comprehensive studies to the Group of Case B could not be found in the literature, in which the development of a service innovation generates an innovation in the form of a business, a fact which reinforces the relevance of this study. While innovations in business are a constant historically, especially in recent history, in Case B, all of them originated in a process of diversification of activities for other product categories not related to the core business of the organization. In case A, service innovations were based on the process of deepening the relationship with current potential organizational customers of the products developed by the Group.

It was this model adopted from the creation of a new organization devoted solely to providing services, which later enabled the introduction of another series of service innovations, such as expanding activities to also provide the same service for individuals, the inclusion of the lottery pool administration service for third parties, such as manufacturers of agricultural machinery, car makers and real estate developers, as well as the latest initiative, the propagation of services of Case B’s brand through the franchise process.

Among the conclusions that can be drawn from the information gathered from the managers of Case B, some indicate that the growth strategy adopted by the Group, based on developing strategic alliances and supported by consolidated practices of relationship marketing, played an important role in the innovation model that arose in case B.

Since analyzing the strategy formation process of the Group of Case B would go beyond the intended scope of this study, a suggestion could be put forth for future studies based on the role of strategic planning in developing models for innovation processes, whether of products and services, processes, management or business.

Conclusion

The service innovation process is still a field of study that has not been duly explored in the literature that deals with innovation. While the process innovation and, above all, technological innovation has been the subject of research since the early 1930s, academics only started taking interest in innovation in services, as far as the mid-1980s.

The growing profile of the service sector in developed and developing economies requires specific approaches that more adequately reflect the specific characteristics of this segment that accounts for nearly all the value generated in contemporary societies, if you consider not only service providers recognized as such, but also the aspects of services found internally in industrial organizations.

Studies of service innovation inside service provider organizations have produced some significant advances in understanding this process, although there still remains a long way to go. Service innovation in the context of the manufacturing industry is still lacking in contributions for key areas of knowledge, mainly Economics and
Management.

The literature on Services Administration, as well as the relationship marketing approach, seem to provide important starting points for analyzing innovation in the realm of services in industrial organizations, since both of them have made significant theoretical contributions for understanding services, whether the specific characteristics of services in relation to packaged goods or in perceiving the relational nature of providing services, aspects that have been covered throughout the length of this article.

We believe that the cases studied reinforce these views. In both organizations, as it was sought to demonstrate, the main challenges faced in promoting the innovations that were referred to, were related to the proper understanding of the unique nature of services by structures originally designed for manufacturing, as well as the assumption of a new paradigm related to creating and developing relationships with clients on a long-term perspective. While it is not the intent of this article, either for reasons of scope or magnitude, to be constituted into an approach that is able to reconcile the innovation theories for physical products and services, taking into account all its specificities, it would therefore fall into the realm of intellectual efforts undertaken to reduce the gaps and shortcomings in the current literature on innovation.

REFERENCES


